

Claims

[c1] A method of resolving label contention in a label switched network comprising:

- (i) receiving a first label switched path setup message sent by a first node in the network;
- (ii) determining whether the first label switched path setup message contends for a same label assigned or suggested in a second label switched path setup message sent by a second node in the network; and
- (iii) giving priority to the second label switched path setup message if the first label switched path setup message is a label request and if the second label switched path setup message is a label reply.

[c2] The method of claim 1 further comprising the step of giving priority to the second label switched path setup message if the first label switched path setup message is a setup message for a unidirectional label switched path and if the second label switched path setup message is a setup message for a bidirectional label switched path.

[c3] The method of claim 2 further comprising the step of giving priority in accordance with a first contention policy if both the first and second label switched path setup messages are setup messages for unidirectional label switched paths and in accordance with a second contention policy, different from the first contention policy, if both the first and second label switched path setup messages are setup messages for bidirectional label switched paths.

[c4] The method of claim 3 wherein the first contention policy gives priority in accordance with downstream label selection.

[c5] The method of claim 4 wherein the second contention policy gives priority to the node with a higher node identification.

[c6] The method of claim 1 wherein the network utilizes Generalized Multi-Protocol Label Switching (GMPLS).

[c7] A method of resolving label contention in a label switched network comprising:

- (i) receiving a first label switched path setup message sent by a first node in the network;

(ii) determining whether the first label switched path setup message contends for a same label assigned or suggested in a second label switched path setup message sent by a second node in the network; and

(iii) giving priority to the second label switched path setup message if the first label switched path setup message is a setup message for a unidirectional label switched path and if the second label switched path setup message is a setup message for a bidirectional label switched path.

[c8] The method of claim 7 further comprising the step of giving priority in accordance with a first contention policy if both the first and second label switched path setup messages are setup messages for unidirectional label switched paths and in accordance with a second contention policy, different from the first contention policy, if both the first and second label switched path setup messages are setup messages for bidirectional label switched paths.

[c9] The method of claim 8 wherein the first contention policy gives priority in accordance with downstream label selection.

[c10] The method of claim 9 wherein the second contention policy gives priority to the node with a higher node identification.

[c11] The method of claim 7 wherein the network utilizes Generalized Multi-Protocol Label Switching (GMPLS).

[c12] A method of resolving label contention in a label switched network comprising:

(i) receiving a first label switched path setup message sent by a first node in the network;

(ii) determining whether the first label switched path setup message contends for a same label assigned or suggested in a second label switched path setup message sent by a second node in the network; and

(iii) giving priority in accordance with a same contention policy where the first or second label switched path setup message is a setup message for a unidirectional label switched path or a bidirectional label switched path.

[c13] The method of claim 12 wherein the contention policy gives priority to the node with a higher node identification.

[c14] The method of claim 12 wherein the network utilizes Generalized Multi-Protocol Label Switching (GMPLS).

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